Question 4: Pesticide Safety Worksheets

Reference:
Applying Pesticides Correctly - A Guide for Private and Commercial Applicators
Unit 4: Pesticides in the Environment, Page 8

Pesticide Breakdown

A pesticide residue is the part of a pesticide that remains in the environment for a period of time following application or a spill. Pesticides usually break down into harmless components after release into an environment. The breakdown time ranges from less than a day to several years. The rate of pesticide breakdown depends mostly on the chemical structure of the pesticide active ingredient. The rate of pesticide breakdown is also affected by environmental conditions at the release site, such as:

1. **Surface type,**
2. **Chemical composition and pH,**
3. **Surface moisture,**
4. **Presence of microorganisms,**
5. **Temperature, and**
6. **Exposure to direct sunlight.**

Persistent pesticides leave residues that stay in the environment without breaking down for long periods of time. Many such pesticides are desirable, because they provide long term pest control and may reduce the need for repeated applications. However, some persistent pesticides cause harm to sensitive plants or animals, including humans. When using persistent pesticides, consider whether their continued presence in the environment is likely to harm plants and animals. When pesticides build up in the bodies of animals or in the soil, they are said to accumulate. When the same mixing/loading site or equipment cleaning site is used frequently without taking steps to limit and clean up spills, pesticides are likely to accumulate in the soil. When this occurs, plants, animals, and objects that come into contact with the soil may be harmed. When pesticides accumulate in the soil, there is also a higher likelihood that the pesticides will move offsite and contaminate the surrounding environment or move into surface or groundwater.